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09/887,834	06/22/2001	Rajiv Jain	M-9351 US	7855
34036	7590	01/25/2005	EXAMINER	
SILICON VALLEY PATENT GROUP LLP 2350 MISSION COLLEGE BOULEVARD SUITE 360 SANTA CLARA, CA 95054			CUNNINGHAM, TERRY D	
		ART UNIT	PAPER NUMBER	
			2816	

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/887,834

Filing Date: June 22, 2001

Appellant(s): JAIN ET AL.

**MAILED**  
JAN 25 2005

**GROUP 2800**

Michael J. Halbert  
For Appellant

**SUPPLEMENTAL EXAMINER'S ANSWER**

This is in response to the Declaration by Andrew K. Chan under 37 C.F.R. § 1.132 filed  
23 March 2004.

Examiner has fully considered the Declaration by Andrew K. Chan and has not found such sufficient to overcome the rejection. Andrew K. Chan is the sole inventor of the applied reference USPN 5,243,226. Due to this, Examiner has given full faith and credit to all of the remarks provided by Mr. Chan concerning the '226 patent.

In paragraph no. 4, Mr. Chan argues as follows:

"At col. 3, lines 65-66 of the '226 patent, it is stated 'Current 12 reduces the antifuse resistance even if  $|I_{12}|$  (the magnitude of 12) is not higher than 11.' This statement was not a disclosure of an alternative embodiment of the invention. To the contrary, the statement was intended as simply a comparison of the disclosed invention relative to the then-conventional wisdom that to reduce antifuse resistance the programming current must be increased."

It appears that Mr. Chan's discussion concerning an "alternative embodiment" is responsive to the statement in the Examiner's Answer stating that the "preferred embodiment" of the '226 patent is programming the antifuse with a current magnitude  $I_{12}$  being less than  $I_{11}$ . The rejection is not based on what the Chan reference is disclosing as an "alternative embodiment". The rejection is based on the facts taught by the reference to Chan. The rejection is based on the fact that the reference to Chan discloses that programming can be done wherein the magnitude of the current  $I_{12}$  (the second pulse) is larger than  $I_{11}$ . This contention by the Examiner is evidenced by Mr. Chan statement (cited above) that Col. 3, lines 65-66, is in reference to "the then-conventional wisdom that to reduce antifuse resistance the programming current must be increased". This discussion by Mr. Chan of the current being "increased" is understood to refer to a magnitude of the second current pulse  $I_{12}$  being larger than that of first current pulse  $I_{11}$ . As a result, Examiner maintains the position that Col. 3, lines 65-66 is teaching, (with

negative terminology) that programming will occur when the magnitude of I2 is larger than I1.

In paragraphs 5-7, Mr. Chan is again stating that it would be improper to interpret lines 65-66 of Col. 3 and lines 8-10 of Col. 4 of the '226 patent as disclosing an "alternative embodiment". Examiner again responds by stating that the rejection is not based on what the Chan reference is disclosing as an "alternative embodiment", it is based on the facts taught by the Chan reference. Thus, this discussion is not seen to be relevant to the rejection.

In paragraph 6, Mr. Chan states the following concerning the language in Col. 4, lines 8-10 of the '226 patent:

"This statement was intended to indicate that instead of using a first pulse and a second pulse with equal magnitude currents, the consistency of the antifuse resistance is improved if the current of the second pulse is lower than the current of the first pulse."

While the intent of this language in Col. 4 may have been in comparison with pulses of "equal magnitude", one skilled in the art would understand this discussion to also include operation wherein the magnitude of I2 is greater than I1. This understanding would clearly be based on what is stated in Col. 3 concerning current I2 reducing "the antifuse resistance even if  $|I_2|$  (the magnitude of I2) is not higher than I1". Examiner also points out that if this cited portion were interpreted by one skilled in the art to not include operation wherein the magnitude of I2 is larger I1, then one may conclude such operation would be advantageous, which would be contrary to the preferred embodiment of the invention and the entire disclosure of the patent.

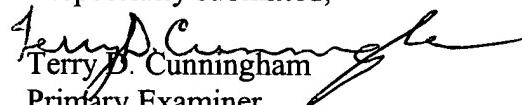
In conclusion, while the intent of the circuit in reference to Chan is to use a current having a magnitude I2 that is less than I1, such clearly discusses programming the

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antifuse with a current having a magnitude I2 that is larger than I1 and what will happen under such circumstance. As understood from the reference to Chan, when programming the antifuse with a current having a magnitude of I2 that is larger than I1, the resistance will be reduced albeit less consistently. In other words, since the reference to Chan discloses the recited method steps to provide a second pulse having a current magnitude I2 greater than the first pulse I1, even though such discloses them as providing less than advantageous results, such is sufficient to be deemed anticipation.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  
Terry D. Cunningham  
Primary Examiner  
Art Unit 2816

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